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202306UECM3463OE1b

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Started on	Wednesday, 12 July 2023, 11:31 AM
Completed on	Wednesday, 12 July 2023, 11:31 AM
Time taken	19 secs
Grade	**0** out of a maximum of 10 (**0**%)

1
Marks: 1

You are given:

- The coverage limit is 10,100.
- The expected value of the loss before considering the coverage limit is 9,330.
- The probability of a claim for 10,100 or more is 0.10.
- The mean excess loss at 10,100 is 20,010.

Determine the average claim paid less than 10,100. _____

Answer: ✗

Make comment or override grade

Incorrect
Correct answer: 7021.111111

Marks for this submission: 0/1.

2
Marks: 1

You are given the following information:

- The amount of an individual claim has an exponential distribution with mean λ
- The parameter λ has a probability density function given by:

$$n(\lambda) = K \lambda^{-5} e^{-32/\lambda}, \lambda > 0$$

where K is a constant.

Determine the expected claim size greater than 32. _____

Answer: ✗

Make comment or override grade

Incorrect
Correct answer: 53.333333

Marks for this submission: 0/1.

3
Marks: 1

The probability density function of loss amounts is given by

$$f(x) = 4(440-x)^3/440^4, 0 < x \le 440$$

An insurance coverage for these losses has an ordinary deductible of 100 Calculate the mean excees loss at 100. _____

Answer: ✗

Make comment or override grade

Incorrect
Correct answer: 68
Marks for this submission: 0/1.

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4 📝

Marks: 1

Let X be a discrete random variable with probability generating function

$$P_X(z) = 0.31z^{280} + 0.29z^{840} + 0.16z^{1400} + 0.14z^{1960} + 0.10z^{2520}$$

Calculate LER(1,500). _____

Answer: [   ] ✗

Make comment or override grade

Incorrect
Correct answer: 0.84604
Marks for this submission: 0/1.

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5 📝

Marks: 1

An individual losses has the Pareto distribution with parameters $\alpha = 3$ and $\theta = 150$ with deductible of 59.4, coinsurance of 81% and a loss limit of 118.80 (before application of the deductible and coinsurance) are applied to each individual loss. Loss sizes are affected by 10% inflation. Determine the variance of the loss payment on the per payment basic. _____

Answer: [   ] ✗

Make comment or override grade

Incorrect
Correct answer: 286.05
Marks for this submission: 0/1.

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6 📝

Marks: 1

In a major college football program, the revenue from ticket sales for a home game is being modeled as a Pareto distribution with $\alpha = 4$ and $\theta = 1,000,000$. For each home game, the coach receives a bonus only if revenue exceeds 800,000. The amount of bonus is 9% of the revenue in excess of 800,000. If there are 10 home games in each football season, calculate the expected bonus the football coach receives each football season. _____

Answer: [   ] ✗

Make comment or override grade

Incorrect
Correct answer: 51440.329218
Marks for this submission: 0/1.

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7 📝

Marks: 1

Annual losses follow a Pareto distribution with $\alpha = 4.00$ and $\theta = 1,050$. Calculate $VaR_{0.990}$. _____

Answer: [   ] ✗

Make comment or override grade

Incorrect
Correct answer: 2270.391543
Marks for this submission: 0/1.

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8 📝

Marks: 1

Annual losses follow a Pareto distribution with parameters $\alpha = 4$ and $\theta = 900$. $TVaR_p = 1,429$, Determine p. _____

Answer: [   ] ✗

Make comment or override grade

Incorrect
Correct answer: 0.929523
Marks for this submission: 0/1.

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9 📝

Marks: 1

The losses experienced by an insurance company have the following probability distribution:

Loss size	Probability
0	0.60

110	0.25
210	0.10
1,220	0.05

Calculate the $CTE_{0.69}$. _____

Answer: [   ] ✗

Incorrect
Correct answer: 321.290323
Marks for this submission: 0/1.

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10 ✏
Marks: 1

Annual losses follow a Pareto distribution with $\alpha = 3.70$ and $\theta = 1,570$. Calculate the difference between $TVaR_{0.95}$ and $VaR_{0.95}$. _____

Answer: [   ] ✗

Incorrect
Correct answer: 1306.67037
Marks for this submission: 0/1.